Application No. 10/698,580
Filed: October 31, 2003
TC Art Unit: 3643
Confirmation No.: 1649

REMARKS

Claims 1-9 and 28-32 have been rejected under 35 U.S.C. § 102(b) over Knoski (US Pat. No. 4,364,531) ("Knoski" or "'531"). Claims 10 and 33 have been rejected under § 103(a) over Knoski. Reconsideration and withdrawal of these rejections are respectfully requested.

Applicants thank the Examiner for his suggestions in overcoming the present art. Independent claim 1 as amended recites that the forward wing and the aft wing each have an airfoil profile in cross-section. Claim 1 further recites that the linkage mechanism is configured to effect extension of the forward wing and the aft wing from a stowed position to a deployed position by translation of the forward wing root and the aft wing root in a same direction along a path. Also, the forward wing root and the aft wing root are located closer to a nose of the fluid-born body in the stowed position than in the deployed position. See, for example, Fig. 8 for a depiction of the translation of the wing roots as specified by amended claim 1. It can also be seen in Fig. 8 that, with the wing roots of both the forward and aft wings translatable in the same direction and located closer to the nose of the fluid-born body in the stowed position, the aft wing folds behind the forward wing when stowed. The extendable wing system of the present invention is able to occupy additional space toward the nose of the body, thereby allowing use of wings having a longer wingspan and greater aspect ratio. This results in increased aerodynamic efficiency and greater standoff range. (Applicants' specification, page 3, lines 6-10)

Knoski relates to an attachable airfoil with a movable control surface. Telescoping airfoil elements 16 are fixed with

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respect to the length of a fuselage 11. During deployment, the airfoil elements 16 extend outwardly, as can be seen in Figs. 3-5. A leading edge 34 is slidably mounted at end 44 to the fuselage. There is, however, no clear indication in Knoski that the leading edge 34 has an airfoil profile. Furthermore, a control surface 20 is slidably mounted on the fuselage 11 at an extension 28 via a drive mechanism 29. The extension 28 of the control surface, however, translates in the opposite direction from the end 44 of the leading edge 34 during deployment, and the control surface extension 28 is not closer to the fuselage nose when stowed. The arrangement of Knoski thus does not result in an efficient use of space during stowage, or provide for the use of wings having a longer wingspan and greater aspect ratio. Accordingly, claim 1 and the claims dependent therefrom are believed to be patentable over Knoski.

Claims 11, 12, 15, 10 [sic, 16], and 18-19 have been rejected under § 103(a) over Knoski and further in view of Raskob Jr. (US Pat. No. 5,901,928) ("Raskob" or "'928"). Raskob does not overcome the deficiencies of Knoski noted above. Accordingly, these claims are believed to be patentable as set forth above with respect to claim 1, and no further comment thereon is believed to be necessary at this time.

Claim 20 has been rejected under Knoski and further in view of www.wtec.org/loyola/polymers/c1_st.htm ("Pultrusion web page"). The Pultrusion web page does not overcome the deficiencies of Knoski noted above. Accordingly, this claim is believed to be patentable as set forth above with respect to claim 1, and no further comment thereon is believed to be necessary at this time.

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Claims 37, 39, and 41-44 have been rejected under § 103(a) over Knoski and further in view of Shmoldas et al. (US Pat. No. 5,615,846) ("Shmoldas" or "'846"). Shmoldas does not overcome the deficiencies of Knoski noted above. Accordingly, these claims are believed to be patentable as set forth above with respect to claim 1, and no further comment thereon is believed to be necessary at this time.

Claims 21-26 have been rejected under 35 U.S.C. § 112, second paragraph. Claims 21-23 have been amended to specify a longitudinal direction, rather than a spanwise direction, as suggested by the Examiner. Thus, this rejection is believed to be overcome.

Claims 28, 31, and 32 have been cancelled for consistency with amended claim 1, from which they depend.

In view of the above amendments and remarks, all claims are believed to be in condition for allowance, and reconsideration and indication thereof are respectfully requested. The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite prosecution of the present application.

Respectfully submitted,
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